



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,460	11/30/2001	Masajirou Inoue	SIW-024	2302
959	7590	01/24/2005		
LAHIVE & COCKFIELD, LLP. 28 STATE STREET BOSTON, MA 02109			EXAMINER ORTIZ, ANGELA Y	
			ART UNIT	PAPER NUMBER
			1732	

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/000,460

Applicant(s)

INOUE ET AL.

Examiner

Angela Ortiz

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

The corrected drawings were received on 21 June 2004. These drawings are acceptable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Sasaki et al., USP 6,649,097 for the reasons cited in the previous office action.

The cited reference teaches the claimed method of molding a gasket or seal onto a carbon plate or separator, the steps comprising providing a separator plate, forming a hole in the plate, positioning the plate within a mold cavity between an upper mold and a lower mold such that the through hole is between an upper and lower grooved surface of the molds, and injecting seal material such that the material fills the grooves and the through hole to form a contoured seal. The mold is provided with a runner and multiple

Art Unit: 1732

gates, upper grooved surfaces on the upper mold and lower grooved surfaces on the lower mold, and can include support means within one grooved surface when molding a seal on one side, and an injection source for the seal material. The porous carbon plate being molded on comprises a separator plate. Note that the claimed seal bridge is readable on the upper and lower grooves connected by the through holes in the plate. See col. 4, lines 20-25, 48-60; col. 5, lines 50-65; col. 6, lines 1-5, 12-30, 40-50, 55-65; col. 7, lines 1-20 and col. 8, lines 10-20, 53-65.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1732

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al., USP 6,649,097 in view of Gemberling, USP 6,319,625 for the reasons cited in the previous office action.

The cited primary reference substantially teaches the basic claimed method of molding a gasket or seal onto a carbon plate or separator, the steps comprising providing a separator plate, forming a hole in the plate, positioning the plate within a mold cavity between an upper mold and a lower mold such that the through hole is between an upper and lower grooved surface of the molds, and injecting seal material such that the material fills the grooves and the through hole to form a contoured seal. The mold is provided with a runner and multiple gates, upper grooved surfaces on the upper mold and lower grooved surfaces on the lower mold, and can include support means within one grooved surface when molding a seal on one side, and an injection source for the seal material. The porous carbon plate being molded on comprises a separator plate. Note that the claimed seal bridge is readable on the upper and lower grooves connected by the through holes in the plate. See col. 4, lines 20-25, 48-60; col. 5, lines 50-65; col. 6, lines 1-5, 12-30, 40-50, 55-65; col. 7, lines 1-20 and col. 8, lines 10-20, 53-65.

The cited primary reference does not teach a mold having mating gates in the upper and lower molds via mating surfaces of the mold, and a peripheral wraparound cavity.

The added reference teaches as conventional the feature of molding a frame around a carbon plate wherein the frame is readable on the claimed seal. The

Art Unit: 1732

reference further demonstrates the conventionality of a mold having mating gates in the upper and lower molds via mating surfaces of the mold, and a peripheral wraparound cavity. See figure 5, col. 4, lines 25-55.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide mating gates and a wraparound cavity as shown in the added reference, when performing the process set forth in the primary reference, for molding a peripheral seal on the separator plate, which minimizes sprue formation.

Claims 4-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al., USP 6,649,097 in view of Engelhardt, USP 3,619,458 for the reasons cited in the previous office action.

The cited primary reference substantially teaches the basic claimed method of molding a gasket or seal onto a carbon plate or separator, the steps comprising providing a separator plate, forming a hole in the plate, positioning the plate within a mold cavity between an upper mold and a lower mold such that the through hole is between an upper and lower grooved surface of the molds, and injecting seal material such that the material fills the grooves and the through hole to form a contoured seal. The mold is provided with a runner and multiple gates, upper grooved surfaces on the upper mold and lower grooved surfaces on the lower mold, and can include support means within one grooved surface when molding a seal on one side, and an injection source for the seal material. The porous carbon plate being molded on can comprise a separator plate, and include a through hole or multiple holes. Note that a seal bridge is

Art Unit: 1732

readable on the upper and lower grooves connected by the through holes in the plate.

See col. 4, lines 20-25, 48-60; col. 5, lines 50-65; col. 6, lines 1-5, 12-30, 40-50, 55-65; col. 7, lines 1-20 and col. 8, lines 10-20, 53-65.

The cited primary reference does not set forth the seal material separately supplied to the gates, or the gate connected to a portion not on the sealing surface.

The added reference sets forth the molding of a gasket using gates that are separately supplied with gasket forming material, wherein the gate rests on a portion not on the sealing surface of the gasket. See figure 3, col. 2, lines 10-40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide separate supply sources and use a gate not on a sealing surface as shown in the added reference, when performing the process set forth in the primary reference, for molding the gasket using equivalent alternative means and for forming a seal wherein the gate sprue does not interfere with sealing functions of the gasket.

With respect to claim 10, note that the separate gates of the cited primary reference have connecting runners that mate at the through hole of the plate, and read on the claimed wrap around due to their configuration; see figure 4.

With respect to claims 5-7, 9, 11-13, note that the added reference teaches as conventional the provision of dual seals at (4(b)), separate gates (10,11) mating by runner (8,9), which form a connecting cavity and seal bridge between the dual seals, which lead to gasket cavity (4(b)). See figure 3.

Art Unit: 1732

With respect to claim 8, note that the overflow stays in channels 8,9; it would have been obvious to provide the same benefit at any desired location to minimize sprue formation.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of copending Application No. 10/010,254. Although the conflicting claims are not identical, they are not patentably distinct from each other because both set forth a method of forming a seal-integrated separator for a fuel cell comprising injecting a seal material into a mold of desired configuration, and forming a seal around a separator plate wherein the seal is formed with a grooved surface and a connecting bridge.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Applicant's arguments filed 03 November 2004 and 21 June 2004 have been fully considered but they are not persuasive.

Applicant argues the 102 rejection indicating that the applied reference does not teach every element being claimed, namely the mold having grooves and supplied from separate gates.

Note that the rejection has been reconsidered in light of the arguments filed. The applied reference teaches that the seal formed in the groove of the porous plate, is formed with a bulbous projection 62, which can only be formed by the mold as shown in figure 4, and figures 7-10 for variations. Note that the reference teaches that the injected material forming the seal fills up the mold of various shapes, see col. 11, lines 1-12. This feature is readable on the mold having grooves. Note that figure 4 depicts the teaching of the resin being injected through a gate 43, and shows two such gates as separate gates, see col. 14, lines 35-41.

Applicant argues the 103 prior art combination of Sasaki and Gemberling, stating that separate gates are not shown.

Note that the argument above regarding figure 4 is deemed applicable to this argument as well. Further, note that the argument that the plurality of gates is not separate is not deemed persuasive. It is possible that applicant is arguing separate nozzles instead; however, the instant specification does not provide a definition of

Art Unit: 1732

separate gates as is currently argued, and figures 8, 9, 10 and 17 of the instant disclosure appear to support the teaching of the prior art.

Applicant repeats the argument with respect to the prior art combination of Sasaki and Engelhardt, stating that separate gates are not shown.

Note that the above argument regarding figure 4 I deemed applicable to this argument as well. Note that the above argument regarding lack of clarification in the instant specification is deemed applicable to this argument also. Further, note that dual seals are formed as argued, and through separate gates 10 and 11, formed in different mold parts. The term separate as defined is met by the applied prior art. If applicant intends to argue a different meaning, the claims must be amended to clarify the record.

The Examiner notes that no arguments have been made against the double patenting rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


Art Unit: 1732

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela Ortiz whose telephone number is 571-272-1206. The examiner can normally be reached on Monday-Thursday 9:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaiaanni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Angela Ortiz
Primary Examiner
Art Unit 1732

ao